

REMARKS/ARGUMENTS

The Office Action mailed September 29, 2004 has been reviewed and carefully considered. Claim 6 is canceled. Claims 1-5 and 7 have been amended. Claims 8-9 are added. Claims 1-5 and 7-9 are pending in this application, with claims 1, 7, and 8 being the only independent claims. Reconsideration of the above-identified application, as herein amended and in view of the following remarks, is respectfully requested.

In the Office Action mailed September 29, 2004, the drawings are objected to as lacking descriptive labels for the blocks in the block diagrams. The attached sheet includes amendments to Figs. 1 and 2 which now include descriptive labels. In view of the amendments to Figs. 1 and 2, the objection to the drawings should now be withdrawn.

The specification is objected to because the Abstract of the Disclosure should be one paragraph. Attached hereto is an amended Abstract correcting the informalities noted by the Examiner and further informalities noted by the Application.

The specification is further objected to as not including heading and because the sentence on page 1, lines 14-15, refers to page number. The specification has been amended to delete the sentence which to actual claim numbers. Regarding the Examiner's request to add heading, we respectfully decline to add the heading as they are not required in accordance with MPEP §608.01(a). In view of the above remarks and the amendments to the Abstract and the specification, the objection to the specification should now be withdrawn.

Claims 1-3, 5, and 7 stand rejected under 35 U.S.C. §102(e) as anticipated by U.S. Patent No. 6,292,778 (Sukkar).

Claims 4 and 6 stand rejected under 35 U.S.C. §103 as unpatentable over Sukkar in view of U.S. Patent No. 6,567,778 (Chao Chang).

Amendments to the Drawings:

The attached sheet of drawings includes changes to Figs. 1 and 2. This sheet, which includes Figs. 1-2, replaces the original sheet including Figs. 1 and 2. Descriptive labels are added to blocks in Figs. 1 and 2.

Attachment: Replacement Sheet

Before discussing the cited prior art and the Examiner's rejections of the claims in view of that art, a brief summary of the present invention is appropriate. The present invention relates to automatic speech recognition of company names in speech utterances. The inventor has recognized speech recognition problems that occur frequently in the recognition of company names. For example, the inventor has discovered that users, when pronouncing company names, may omit a part of the company name, form abbreviations, use acronyms, or exchange parts of the company name (see page 1, lines 5-11, of the specification). A comparison unit 14 compares a word sequence hypothesis of a speech utterance with entries of a database 15, which stores company names (page 3, lines 2-5). The database 15 also includes abbreviated names (page 3, lines 9-12). Variants of the company name such as, for example, appropriate mix-ups of parts of company names, and colloquial formulations are stored in a further database 17 (page 4, lines 12-16). If the database 15 does not contain any entries that are completely found in the word sequence hypothesis, the comparison unit 14 searches the database for entries that are at least partly in the word sequence hypothesis (page 3, lines 14-18). Certain parts of the company name may receive a larger weight factor than other parts (page 3, lines 19-24)

Independent claims 1 has been amended to include the recitations of dependent claim 6 and now recites "storing entries including company names and variants of the company names in a database, the variants including at least one of mix-ups of part of company names, colloquial formulations of company names, abbreviations of company names, and acronyms of company names". Independent claim 7 has been similarly amended. Furthermore, each of the claims has been amended to put the claims in better format.

Sukkar discloses a task-independent utterance verification with subword-based minimum verification error training. According to Sukkar, individual subwords are first

recognized (col. 4, lines 18-20, of Sukkar). Then a word lexicon is consulted to determine a word, phrase, or sentence that matches strings of the subwords (col. 4, lines 20-29). Col. 13, line 36, to col. 14, line 9, describes a specific implementation of the method described by Sukkar which is used to recognize company names. However, Sukkar fails to disclose that the database of company names includes variants of the company names, as now recited in independent claims 1 and 7.

Chao Chang fails to teach or suggest what Sukkar lacks. Chao Chang discloses speech recognition using slot semantic confidence scores. According to Chao Chang, a stream of input speech is recognized and identified (see col. 5, lines 50-52 of Chao Chang). In addition, a word confidence score is attached to each recognized word (col. 5, lines 52-54). An interpreter is then used to determine required information for an application. In the example given in Chao Chang, the application is for air flight information which requires origin, destination, and time of travel (col. 6, lines 15-18). In a further example for determining a stock name, Chao Chang recognizes that some of the words of the stock name are necessary and others are not necessary (col. 6, line 54 to col. 7, line 14). However, Chao Chang fails to teach or suggest "storing entries including company names and variants of said company names in a database, said variants including at least one of mix-ups of part of company names and colloquial formulations of company names, abbreviations of company names, and acronyms of company names", as recited in independent claims 1 and 7.

Accordingly, it is respectfully submitted that independent claims 1 and 7 are allowable over Sukkar in view of Chao Chang.

New independent claim 8 recites "finding entries in the database that are at least partially found in the word sequence hypothesis by comparing the word sequence hypothesis

with the entries which represent company names stored in the database (15)", and "producing a probability for each entry found during the step of comparing, the probability being dependent on the number of words in each of the entries found in the word sequence hypothesis, wherein each word has a weight factor, particularly characteristic words having a large weight factor, the weight factor being taken into account in determining the probability for each entry". Support for this limitation of claim 8 is found at page 3, lines 17-24.

Sukkar fails to assign weight factors to specific words in entries of a database. Chao Chang also fails to teach this limitation. Chao Chang describes that some of the words of a stock name are not necessary for recognizing the stock. However, there is no teaching or suggestion that the words in the stock name have weighting factors. Accordingly, Chao Chang fails to teach or suggest "producing a probability for each entry found during the step of comparing, the probability being dependent on the number of words in each of the entries found in the word sequence hypothesis, wherein each word has a weight factor, particularly characteristic words having a large weight factor, the weight factor being taken into account in determining the probability for each entry", as recited in independent claim 8. Therefore, it is respectfully submitted that independent claim 8 should also be allowable over Sukkar in view of Chao Chang.

New claim 9 depends from new independent claim 8. Support for the limitations of new claim 9 are found at page 4, lines 1-10.

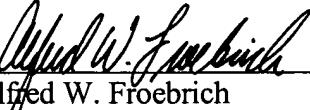
Dependent claims 2-5, and 9, each being dependent on one of independent claims 1 and 8, are deemed allowable for the same reasons expressed above with respect to independent claims 1 and 8.

The application is now deemed to be in condition for allowance and notice to that effect is solicited.

It is believed that no fees or charges are required at this time in connection with the present application. However, if any fees or charges are required at this time, they may be charged to Patent and Trademark Office Deposit Account No. 14-1270.

Respectfully submitted,

COHEN, PONTANI, LIEBERMAN & PAVANE

By 
Alfred W. Froebrich
Reg. No. 38,887

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